

Application No.: 10/829,567
Amendment Dated: November 5, 2004
Reply to Office Action of: August 19, 2004

MAT-8183US1

Remarks/Arguments:

By this Amendment, Applicants have amended claims 1, 7, 10, 12, 16 and 17. Applicants have cancelled claims 2, 9, and 11. In addition, new claims 24-35 have been added. Accordingly, claims 1, 3-8, 10, and 12-35 are pending.

Allowable Subject Matter

Applicants acknowledge with appreciation the Examiner's finding that claims 11-12 and 19-20 would be allowable if rewritten in independent form. As will be apparent in the subsequent discussion, Applicants incorporate the subject matter of claim 11 into amended claim 7, and incorporate the subject matter of claim 12 into newly added claim 30. Because claim 11 was incorporated into claim 7, claim 11 has been cancelled. Claim 12 does not have to be rewritten because it is now dependent on amended claim 7 which is itself in condition for allowance.

As for claims 19 and 20, they are dependent on claim 16 which has been amended so that it too is in condition for allowance.

Claim Rejections Under Section 102

Claims 7 and 13-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ritcher. By this Amendment, Applicants respectfully traverse the Section 102(b) rejection.

Claim 7 has been amended to incorporate the features of claims 9 and cancelled claim 11. As noted above, claim 11 has been found by the Examiner to include allowable subject matter. Thus, amended claim 7 and all claims dependent thereon are in condition for allowance. Applicants note that claims 9 and 11 have been cancelled, and thus claims 10 and 12 have been amended to correct their dependency.

Based on the foregoing discussion, Applicants respectfully request that the Section 102(b) rejection based on the Ritcher Patent should be withdrawn.

Claim Rejections Under Section 103

Claims 1, 5 and 8-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ritcher in view of Oshima; and claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ritcher in view of Oshima and further in view of Racine. Applicants note that the Office Action at the beginning of paragraph 5 identifies only claim 16 as being rejected. However, the remainder of paragraph 5 also rejects claims 17, 21 and 22. Thus, Applicants are assuming that claims 16, 17, 21 and 22 are rejected under Section 103(a). In view of this Amendment, Applicants respectfully traverse the Section 103(a) rejection.

Claims 1 and 16 are independent claims. Turning first to claim 1, it is directed to a object detecting device for preventing a seizure of an object between an opening and an opening-closing unit for opening and closing the opening. The object detecting device defined by claim 1, includes the following elements:

- a pressure-sensitive sensor disposed at one of the opening and the opening-closing unit, the pressure-sensitive sensor including:
 - pressure-sensitive means for generating an output signal depending on deformation; and
 - support means for supporting the pressure-sensitive means at the one of the opening and the opening-closing unit, the support means including a vibration damping portion for damping vibration propagated to the pressure-sensitive means, **the vibration damping portion having a hollow portion provided therein**; and
- judging means for judging the contact of the object with the pressure-sensitive sensor on the basis of an output signal of the pressure-sensitive sensor.

It is Applicants' position that the object-detecting device defined by claim 1 is patentably distinguished from the Ritcher, Oshima and Racine Patents at least based on the requirement that the vibration damping portion has a hollow portion provided therein (hereinafter generally referred to as the "Hollow Portion Feature" of Applicants' claimed invention). Simply put, the Ritcher, Oshima and Racine Patents lack any teaching or suggestion of the Hollow Portion Feature of Applicants' claimed invention.

The addition of the Hollow Portion Feature into claim 1 is not new matter, because this subject matter is discussed in detail throughout the specification, and the advantages associated with the Hollow Portion Feature are also discussed throughout the specification; see, for example, page 11, line 15, to page 12, line 11. The Hollow Portion Feature assures that the support means will have less or smaller compressibility than the pressure-sensitive means. The advantages of this feature is discussed, as noted above, in the specification. Neither the Hollow Portion Feature nor the advantages associated therewith are taught or suggested in the Ritcher, Oshima, or Racine Patents.

The Ritcher Patent concerns in general a safety apparatus for a motor driven window that includes an elongated sensing mechanism that extends substantially across the width of a window aperture and along the side of the window aperture towards which a closing, motor driven window moves. The elongated sensing mechanism is comprised, at least in part, of a piezoelectric cable for generating electrical pulses upon an obstruction extending across the path of the closing window being pushed against the sensing mechanism by the closing window. Coupled to the motor driven window is an electric motor that is connected so as to be responsive to the electrical pulses generated by the piezoelectric cable for automatically reversing the direction of rotation of the electric motor. Figure 2 of the Ritcher Patent shows a sensing mechanism 5 a flexible sealing lip 6 and an obstruction 8. But nowhere in the Ritcher Patent is there any teaching or suggestion of a Hollow Portion Feature of Applicants' claimed invention.

The Oshima Patent in general relates to a piezoelectric cable and wire harness for picking up interference signals in areas where the cable acts as a sensor. Referring to Figures 1 and 2 of the Oshima Patent, a coaxial piezoelectric 10 has a

piezoelectric material layer 14 disposed between a core conductor 12 and an outer conductor 16. Piezoelectric material layer 14 is polarized and shows piezoelectric properties in a region 20 which extends along a window frame 2 of an automobile, but is not polarized, and therefore shows no piezoelectric properties, in a region 22 in which it is not desired that the cable act as a sensor. According to Oshima, there is no pick-up of false signals in region 22. But nowhere in the Oshima Patent is there any teaching or suggestion of a vibration damping portion having a hollow portion therein as defined in Applicants' claim 1. In other words, there is no Hollow Portion Feature discussed or suggested in the Oshima Patent.

The Racine Patent in general relates to a sensing system which senses an obstruction between a closure member and a frame, regardless of the input force to the sensor. According to Racine, when the obstruction is sensed to be between the closure member and the frame, the operation of the closure member can be controlled to prevent further closing of the closure member upon the obstruction. The sensing system includes a membrane switch assembly which changes resistance when a force component caused by the obstruction is extended on the switch assembly. But nowhere in the Racine Patent is there any teaching or suggestion of a support means for supporting the pressure-sensitive means, where the support means includes a vibration damping portion, and the damping portion further includes a hollow portion therein. Thus, the Racine Patent lacks any teaching or suggestion of the Hollow Portion Feature of Applicants' claimed invention.

Thus, based on at least the Hollow Portion Feature, claim 1 and new pending claims 3-6 are patentably distinguished from the references of record.

Applicants also note that claims 8 and 9 are dependent on claim 7, and because claim 7 is in condition for allowance for the reasons noted above, these dependent claims are likewise patentably distinguished from the references of record.

Independent claim 16 is directed to an object detecting device for preventing a seizure of an object at an opening of a body. The object detecting device of claim 16 includes the following elements:

- a slide door for opening and closing the opening, the slide door having an end in a closing direction, **the slide door**

having an undulated portion for reinforcing rigidity of the slide door;

- a pressure-sensitive sensor including:
 - pressure-sensitive means for generating an output signal depending on deformation; and
 - support means for supporting the pressure-sensitive means at or near the end of the slide door; and
- judging means for judging the contact of the object with the pressure-sensitive sensor on the basis of an output signal of the pressure-sensitive sensor,
- wherein **the end of the slide door has a bent part corresponding to the undulated portion,** and
- wherein **the support means supports the pressure-sensitive means at the bent part as to allow the support means to be bent.**

Applicants respectfully submit that the object detecting device of claim 16 is patentably distinguished from the Ritcher, Oshima and Racine Patents at least based on the requirement of the slide door having an undulated portion for reinforcing the rigidity of the slide door, wherein the end of the slide door has a bent part corresponding to the undulated portion, and the support means supports the pressure-sensitive means at the bent part as to allow the support means to be bent. This configuration of the slide door, support means and undulated portion as defined in amended claim 16 is neither taught nor suggested in the Ritcher, Oshima and Racine Patents.

The support for the amendment to claim 16 of the structure of the slide door, support means, and undulated portion is found throughout the originally filed specification; see, for example, page 38 with regard to Figure 18. It is Applicants' position that the structure of the slide door having an undulated portion, and an end of the slide door having a bent part corresponding to the undulated portion, and the

Application No.: 10/829,567
Amendment Dated: November 5, 2004
Reply to Office Action of: August 19, 2004

MAT-8183US1

support means supporting the pressure-sensitive means at the bent part so as to allow the support means to be bent is neither taught nor suggested in the references of record. Thus, claim 16 and dependent claims 17-23 are patentably distinguished from the Ritcher, Oshima and Racine Patents.

Based on the foregoing discussion, Applicants respectfully request that the Section 103(a) rejections be withdrawn.

Double Patenting Rejection

Claims 1-7, 10 and 13-15 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 10-11 and 13-16 of U.S. Patent No. 6,747,399. And claims 16-18 and 21-23 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 10-11 and 13 of U. S. Patent 6,747,399 in view of Oshima and further in view of Racine.

Applicants respectfully submit that with the amendments of claims 1 and 16, there is no longer a basis for the double patenting rejection as features have been added to these independent claims (and therefore the claims dependent thereon) which are not found in U.S. Patent 6,747,399. Thus the double patenting rejection should be withdrawn. In the event the Examiner will not withdraw the double patenting rejection, and to expedite prosecution and allowance of all pending claims, Applicants are also enclosing a Terminal Disclaimer to overcome the double patenting rejection. If the Examiner agrees with Applicants' position that there is no longer a basis for the double patenting rejection, Applicants would appreciate the Examiner's returning the Terminal Disclaimer with any further communication to Applicants.

Newly Added Claims

By this Amendment, Applicants have added new claims 24-35. It is Applicants' position that these claims are not the addition of new matter, but are based on the application as originally filed.

New claim 24 is an independent claim to which 25-29 depend.

Claim 24 is directed to an object detecting device for preventing a seizure of an object between an opening and an opening-closing unit. The object detecting device defined by claim 24 includes the following elements.

- a pressure-sensitive sensor disposed at one of the opening and the opening-closing unit, the pressure-sensitive sensor comprising:
 - pressure-sensitive means for generating an output signal depending on deformation; and
 - support means for supporting the pressure-sensitive means at the one of the opening and the opening-closing unit, the support means including **a deformation amplifying portion providing the support means with less compressibility than the pressure-sensitive means**, and the deformation amplifying portion, including a vibration damping portion for damping vibration propagated to the pressure-sensitive means, and
- judging means for judging the contact of the object with the pressure-sensitive sensor on the basis of an output signal of the pressure-sensitive sensor.

Applicants submit that the object-detecting device as defined by claim 24 is patentably distinguished from the Ritcher, Oshima, and Racine Patents at least based on the requirements that the support means includes a deformation amplifying portion providing the support means with less compressibility than the pressure-sensitive means. This feature is neither taught nor suggested in the cited references. In effect, this feature can be provided by the hollow portion as defined in Applicants amended claim 1. In sum, the requirement of the support means including a deformation amplifying portion providing the support means with less compressibility than the pressure-sensitive means patentably distinguishes claim 24 and dependent claims 25-29 from the references of record. This feature is not the addition of new matter but is discussed in the originally filed specification, and in this connection

Application No.: 10/829,567
Amendment Dated: November 5, 2004
Reply to Office Action of: August 19, 2004

MAT-8183US1

Applicants direct the Examiner's attention to page 11, line 15 to page 12, line 11 of the originally filed specification.

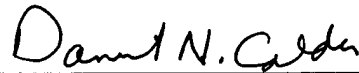
Applicants also note that newly added dependent claims 25-29 include the features found in pending claims 1 and 3-6.

Newly added independent claim 30 includes the features of claims 7, 9, and 12. Pending claim 12 has been found by the Examiner to include allowable subject matter. Thus at least on that basis, claim 30 and dependent claims 31-35 are patentably distinguished from the references of record.

Applicants also note that newly added dependent claims 31-35 correspond to claims 8, 10, 11, 13, 14 and 15, respectively.

In view of the foregoing remarks and amendments, Applicants respectfully submit that pending claims 1, 3-8, 10, and 12-35 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,



Lawrence E. Ashery, Reg. No. 34,515
Daniel N. Calder, Reg. No. 27,424
Attorneys for Applicants

DNC/fp

Attachment: Terminal Disclaimer

Dated: November 5, 2004

P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

November 5, 2004

